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**IN THE DRAWINGS:**

Please replace sheets 1 and 2 of the present application with the attached replacement drawing sheets 1 and 2. Two amplifiers have been added to the two current lines in Fig. 1. A labeled reference indicating the interlayer has been added to Fig. 2. No new matter had been added.

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**SEP 21 2006****REMARKS**

Claims 18-48 are pending in the application. In response to the Office Action mailed May 22, 2006, applicants have amended the drawings and editorially amended claims 18, 22, 27, 28, 43, and 44. Claims 18-48 remain pending for reconsideration.

Applicants object to the piecemeal and unnecessarily protracted nature of the prosecution of the present application. First, applicants point out that the present office action was initially made final (erroneously). Second, applicants point out that various new objections to the drawings could have and should have been made in the prior action (or better yet, they should not have been made at all because they are simply of a formal nature which creates extra work for applicants without otherwise being of any particular value). Finally, applicants object to the Examiner treating applicants' successful traversal as an opportunity to perform a redundant search and an excuse to formulate a new view of the claims and the prior art.

In numbered paragraph 15, the office action states:

However, in view of Applicant's amendments and the newly discovered prior arts, a new non-Final office action has been set forth as above.

As previously pointed out to the Examiner, applicants did not make any amendments to the claims. The purported 'newly discovered prior arts' includes a patent which dates back to 1971. Even the most recently issued of the 'newly discovered prior arts' was issued in 2004, over a year before the initial office action in this case. Applicants understand that the Examiner has a duty to perform an updated search prior to allowance, but the purpose of the updated search is to look for potentially effective references which only became public since the prior search. Again, the purpose of the updated search is not for the Examiner to take a new view of the claims following applicants' successful traversal.

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The drawings were objected because of claim features not present in the drawings. With respect to claims 19, 20 and 26, applicants have amended the Figures accordingly. The amendments are supported at least by the referenced claims. With respect to claims 28 and 44, the drawing element 112 shows an example of the claim recitation (e.g. see paragraph 0024 of the present application). Applicants submit that the figures are now unobjectionable.

Claim 18 is objected to because of a purported informality. As the claim is clear, definite, and enabled in accordance with all legal requirements, applicants respectfully decline the Examiner's invitation to add further recitations to the claim.

Claims 18 and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,573,753 (Skelly). Claims 19 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Skelly in view U.S. Patent No. 6,445,612 (Naji - applicants note a typo of 6,455,612 in the rejection). Applicants respectfully traverse these rejections for the following reasons.

The Examiner fails to read the reference on the claims. Claim 18 recites:

a first current to be measured between said first conductive material and said reference conductor and a second current to be measured between said second conductive material and said reference conductor (Emphasis added)

The Examiner's analysis asserts that Skelly describes:

wherein: readout of recorded information from the storage medium is effected by a measurement of current induced between electrodes 33 and 35 (see lines 60-64, column 5).

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Upon even cursory inspection, it is apparent that the Examiner has failed to read any portion of the Skelly reference on the recited second current. This is clear legal error. In fact, Skelly describes only one current to be measured between the electrodes 33 and 35 and does not teach or suggest the recited second current.

Because Skelly fails to teach or suggest a second current to be measured between said second conductive material and said reference conductor, claim 18 is not anticipated by and is patentable over Skelly. Dependent claim 21 is likewise patentable.

Naji, which is relied on for other aspects, fails to make up for the above-noted deficiency in Skelly. Accordingly claims 19 and 20 are patentable over Skelly in view of Naji. Applicants expressly reserve the right to pre-date the Naji reference (which was filed only one month prior to the effective date of the present application).

Claims 22-25, 27, 29-33 and 43-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,118,192 (Chen) in view of U.S. Patent No. 3,936,690 (Salgo) and Skelly. Applicants respectfully traverse this rejection for the following reasons.

Applicant has previously argued that this § 103 rejection is logically and legally inconsistent with the requirement for the terminal disclaimer. Specifically, applicants argued that if these claims of the present application are not patentably distinct from the claims of an issued US patent (U.S. Patent No. 6,643,161, which is presumed to be valid over the prior art, including the prior art of record), then the claims of the present application must also be patentable over the prior art of record. The Examiner has failed to answer this traversal.

Applicants presume that this rejection has been made in error and that the Examiner does not challenge the validity of U.S. Patent No. 6,643,161. If the rejection is maintained, applicants respectfully request that the Examiner identify what legal basis the

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Examiner is relying on (e.g. a citation to the MPEP, CFR, or USC) which permits making both a double patenting rejection and an art based rejection of the same claim.

In any event, the rejection falls short for several reasons. First, applicants note that the rejection is not in proper form. Rather than relying on the primary reference for the independent claims, and then adding references as necessary to read on additional recitations of dependent claims, the rejection identifies Chen as the primary reference and works backwards through dependent claims (using Salgo for intermediate dependent claims) until finally utilizing Skelly for the independent claims 22, 27, and 43. This is improper form and the rejections should be re-stated using Skelly as the primary reference.

Next, not only is form improper but it is legally incorrect. As it appears that neither Salgo nor Chen are relied on in any way for claims 22-25, 27, 29-30, and 43-45, the properly stated rejection would appear to be under § 102, not § 103. The next properly stated rejection, for claims 31 and 46, should be Skelly in view of Salgo. Finally, the last properly stated rejection for claims 32-33 and 47-48 should be Skelly in view of Salgo and further in view of Chen. The Examiner should re-state these rejections properly to simplify issues for possible appeal.

Finally, the rejection falls short because it fails to read on the references on each and every claim recitation. Applicants note that each of independent claims 22, 27, and 43 have different claim recitations which require separate analysis for the Examiner to even attempt to establish a prima facie case of obviousness or anticipation.

In any event, the rejection is factually and legally erroneous. With respect to claims 22-25, for the reasons given above Skelly does not teach or suggest the recited second current to be measured between said second conductive material and said reference conductor. Accordingly, claim 22 and its dependent claims 23-25 are patentable over Skelly, alone or in combination with Salgo and / or Chen.

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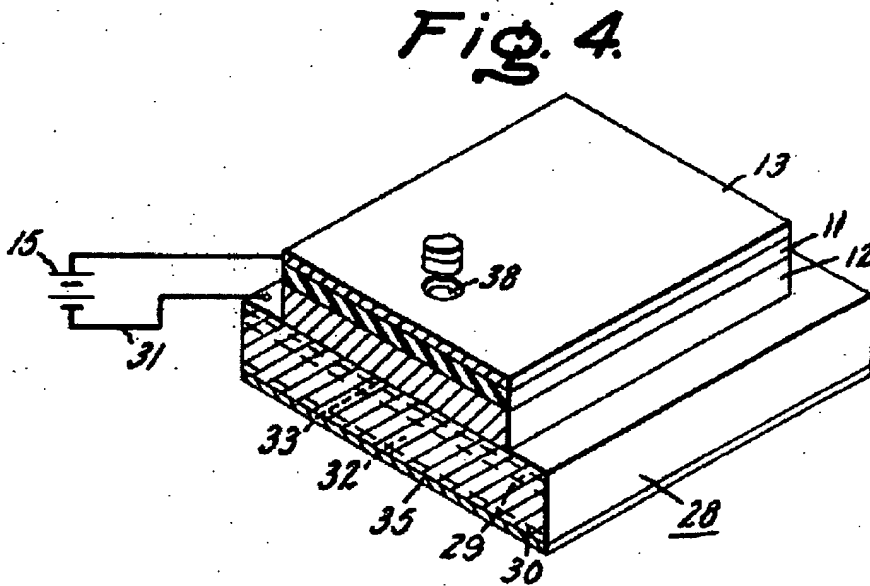
With respect to claim 27, the office action states:

p-type region 29 and n-type region 30 (see lines 24-25, column 5), inherently can be direct band semiconductor layers since Skelly, 3,573,753, is not limited to a specific semiconductor layer, which are read on the P-N junction;

Applicants first note that the foregoing is an incorrect use of inherency. The Examiner is referred to MPEP § 2112 for the requirements of a rejection which relies on inherency (the words 'inherently' and 'can be' are mutually exclusive). Moreover, Skelly teaches at col. 5, lines 24-27 that:

semiconductor wafer, preferably silicon. Detectors of this type typically comprise a narrow p-type region 29 and a narrow n-type region 30 which are diffused into the wafer from opposite sides so as to leave a wide intrinsic region 32. An additional p-

With reference to Fig. 4 of Skelly, it is seen that the regions 29 and 30 are on the opposite sides of the wide region 32:



This would not form a P-N junction.

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With respect to claim 43, the office action fails to read the reference on the vast majority of the claim recitations. For example, both claims 27 and 43 recite a photo-detector. The office action fails to provide any analysis of how Skelly allegedly describes this recitation of claims 27 and 43. Accordingly, the rejection fails and claims 27 and 43 are patentable over Skelly, alone or in combination with Salgo and / or Chen.

Claims 34-42 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,819,649 (Magnitski). Applicants respectfully traverse this rejection for the following reasons.

The office action does not even attempt to read the reference on many claim recitations. For example, each of claims 34 and 39 recite an electron beam. The office action completely ignores this claim recitation. This is clear legal error. In fact, Magnitski does not describe an electron beam. As noted by the Examiner, Magnitski at col. 7, lines 3-7 describes that information is recorded by use of a focused laser beam, not an electron beam. Accordingly, the rejection fails and should be withdrawn.

In addition, claim 34 recites changing the first EL intensity to a second EL intensity during said exposing, wherein the bit of data is stored. Claim 39 recites an electron beam to be irradiated on said volume of material to change a first electroluminescence intensity (EL) of said volume of material to a second EL wherein the bit of data is stored. The office action provides no analysis whatsoever of how Magnitski reads on these recitations. Accordingly, the Examiner fails to establish anticipation of the claims and the rejection should be withdrawn.

The only portion of the rejection which appears to tangentially bear on these recitations is as follows:

information recording is done by a focused laser beam (see lines 27-37, column 1 and lines 3-7, column 7).

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However, upon even cursory inspection it is evident that this analysis does not address the claim recitations. Moreover, the focused laser beam does not change the EL intensity of the EL layer 201. Magnitski plainly describes at col. 7, lines 23-25 that:

Information recording in the device is implemented by photobleaching the quencher enabling the increasing the initial fluorescent signal. In addition, the active layer com- 25

Because Magnitski does not teach or suggest an electron beam or using an electron beam to change a first electroluminescence intensity (EL) of the volume of material to a second EL wherein the bit of data is stored, claims 34 and 39 are patentable over Magnitski. The dependent claims 35-38 and 40-42 are likewise patentable.

Claims 22-25, 27, 29-30, 43, and 45 are rejected on the ground of nonstatutory obviousness-type double patenting over U.S. Patent No. 6,643,161. As previously noted, presuming that only the double patenting rejection remains, applicants are not opposed to providing a terminal disclaimer to overcome the rejection. However, because of the issues with the incongruent § 103 rejection, applicants have postponed providing such disclaimer until the Examiner withdraws the either the double patenting rejection or the § 103 rejection (applicants submit that it is clear legal error to maintain both on the same claims).

In view of the foregoing, favorable reconsideration and withdrawal of the rejections is respectfully requested. Early notification of the same is earnestly solicited. If there are any questions regarding the present application, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

September 21, 2006

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